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10/597,245

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Petrus Wilhelmus Vincentius Kop

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EXAMINER

RALEIGH, DONALD L

ART UNIT

PAPER NUMBER

2879

MAIL DATE

DELIVERY MODE

09/18/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/597,245

Applicant(s)

KOP, PETRUS WILHELMUS  
VINCENTIUS

Examiner

DONALD L. RALEIGH

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 June 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

Art Unit: 2879

## **DETAILED ACTION**

### ***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claims 1-6 are pending in the instant application.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3, 4 and 6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 3, 4, and 6 recites the phrase “preferably” followed by a recitation of a narrower subject matter, the recitation renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention, or merely a optional preferred embodiment. See MPEP § 2173.05(d).

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by van der Voort (US Patent No. 6,144,152).**

Art Unit: 2879

**Regarding Claim 1**, van der Voort discloses a low-pressure mercury discharge lamp (Column 1, lines 6-7) comprising an envelope (Column 1, line 14 (bulb)) with an inner surface enclosing a discharge space (Column 1, line 9 (vessel)) in which a mercury comprising filling is accommodated (Column 1, line 10), at least one electrode (it must have an electrode to cause a discharge (Column 1, line 6) for generating ultraviolet radiation (Column 3, line 18 (280 nm)) in said discharge space, and a phosphor layer (Column 1, line 11 (luminescent)) formed over said inner surface to convert said ultraviolet radiation into light of the green wavelength region (Column 1, lines 12-13 (520 nm)), wherein said phosphor layer consists of a water-dispersable (a water dispensable phosphor is the ability to so perform and (BAM) is recognized to have such ability) blend of a yellow-green phosphor (Column 2, lines 57-58 (gadolinium activated and terbium activated cerium magnesium pentaborate (CBT). and a blue-green phosphor (Column 6, lines 40-42 (BAM) barium magnesium aluminate activated by Eu and Mn).

**Regarding Claim 3**, van der Voort discloses a low-pressure mercury discharge lamp (Column 1, lines 6-7) wherein said yellow-green phosphor is a Ce, Tb activated phosphor, preferably gadolinium magnesium borate, activated by Ce, Tb (Column 2, lines 57-58 (CBT).and wherein said blue-green phosphor is a Eu, Mn activated phosphor, preferably barium magnesium aluminate, activated by Eu, Mn (Column 6, lines 40-42 (BAM), barium magnesium aluminate activated by Eu and Mn).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2879

**Claims 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over van der Voort (US Patent No. 6,144,152).**

**Regarding Claim 4**, van der Voort fails to exemplify the low pressure mercury discharge lamp wherein the weight ration of yellow-green phosphor to blue-green phosphor is from 90:10 to 10:90, preferably 75:25 to 50:50. Van der Voort discloses the claimed invention except for the weight ratio of the phosphors in the blend.

One of ordinary skill in the art, could reasonably contemplate such an optimization of the weight ratios as an obvious matter of design engineering.

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to incorporate the required blend ratios in the phosphor blend of van der Voort as an obvious matter of design engineering.

**Regarding Claim 6**, van der Voort fails to exemplify a process wherein said phosphor blend consists of a Ce, Tb activated gadolinium magnesium borate and a Eu, Mn activated barium magnesium aluminate, preferably in a proportion Of 87-50% b.w. of gadolinium magnesium borate, activated by Ce or Tb, to 13-50% b.w. of barium magnesium aluminate, activated by Eu and Mn". Van der Voort discloses the claimed invention except for the weight ratio of the phosphors in the blend.

One of ordinary skill in the art, could reasonably contemplate such an optimization of the weight ratios as an obvious matter of design engineering.

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to incorporate the required blend ratios in the phosphor blend of van der Voort as an obvious matter of design engineering.

**Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over van der Voort (152) in view of Trushell et al (US Patent No. 5,612,590).**

Art Unit: 2879

**Regarding Claim 2**, van der Voort fails to disclose a low-pressure mercury discharge lamp wherein said phosphor layer provides a light output of at least 3600 lumens at an operation life of 100 h.

Trushell teaches a low-pressure mercury discharge lamp (Column 1, line 8) wherein said phosphor layer provides a light output of at least 3600 lumens at an operation life of 100 h, (Column 6, lines 1-5, 100 hours, 4483 lumens) to produce a high CRI fluorescent lamp (Column 3, lines 40-42).

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to incorporate the operation life and lumen output of the lamp of Trushell in the lamp of van der Voort, to produce a high CRI fluorescent lamp.

**Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over van der Voort (152) in view of Tews et al (US Patent No. 6,489,716).**

**Regarding Claim 5**, van der Voort discloses the blue-green and yellow-green blend of phosphors and the low-pressure mercury discharge lamp having green emission (Column 1, line 13 (520-565 nm)), but fails to disclose a process, comprising the application of a green-emitting phosphor layer on the inner surface of the envelope enclosing the discharge space of the lamp, wherein an aqueous suspension of a blend of phosphor, is deposited on the inner surface, followed by drying to obtain a coating on said inner surface.

Tews teaches a process for the preparation of a low-pressure mercury discharge lamp (Column 1, lines 6-8), comprising the application of a phosphor layer on the inner surface of the envelope (Column 3, lines 4-5) enclosing the discharge space of the lamp, wherein an aqueous suspension of a phosphor (Column 4, line 30) is deposited on the inner surface, followed by drying to obtain a coating (Column 6, lines 31-34) on said inner surface.

Art Unit: 2879

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to incorporate the process, as taught by Tews with the blue-green , yellow-green phosphor blend of van der Voort to create a blend with luminescence properties improved in comparison with conventional luminescent substances.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DONALD L. RALEIGH whose telephone number is (571)270-3407. The examiner can normally be reached on Monday-Friday 7:30AM to 5:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on 571-272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Donald L Raleigh/  
Examiner, Art Unit 2879

/Mariceli Santiago/  
Primary Examiner, Art Unit 2879